

## **REMARKS**

### **I. Introduction**

Claims 11 to 21 are pending in the present application. In view of the foregoing amendments and the following remarks, it is respectfully submitted that all of the presently pending claims are allowable, and reconsideration is respectfully requested.

Applicants express appreciation for the acknowledgment of the claim for foreign priority and the indication that all copies of the certified copies of the priority documents have been received from the International Bureau.

### **II. Rejection of Claims 11, 12, 15 to 18 and 21 Under 35 U.S.C. § 103(a)**

Claims 11, 12, 15 to 18 and 21 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent Application Publication No. 2003/0049858 ("Golden et al."). It is respectfully submitted that Golden et al. does not render these claims unpatentable for at least the following reasons.

Claim 11 relates to a method for controlling at least one operating variable of an electrolytic bath, including: ascertaining a concentration of at least one bath component; processing concentration values in a control device into control variables of a control element; and changing the operating variable by the control element in accordance with setpoint inputs. The concentration is ascertained in the ascertaining step by withdrawing a sample from the bath, exciting the sample by electromagnetic radiation and analyzing a spectrum of light emitted by the sample.

Although Applicants may not agree with the merits of the rejection, to facilitate matters, claim 11 has been amended without prejudice to recite, in relevant part, that **the method for controlling at least one operating variable of an electrolytic bath includes ascertaining a concentration of at least one ionic bath component, including at least one of (a) coating metal ions in a process bath and (b) foreign ions in a rinse bath.** Support for this amendment may be found, for example, on page 5, lines 29 to 30, page 6, lines 22 to 24 and page 10, lines 29 to 33 of the Specification.

Golden et al. describes a method and system for determining the presence of analytes in metal plating solutions using Raman spectroscopy, as well as a chemical auto-dosing system for controlling the concentration of one or more plating bath additives in a metal plating bath. A Raman spectroscopy sensor (100) shown in Figure 2 of Golden et al. includes, inter alia, a monochromatic light source

(102) such as a YAG diode laser, a spectrograph (104) and a probe (120) for delivering incident light to and collecting scattered light from a plating solution sample (124). The sample (124) to be analyzed enters a sample subvolume of the plating bath via normal operating circulation of the bath or via one or more pumps. Excitation light provided by the light source (102) interacts with the sample (124) to yield Raman scattered light, which is collected by the probe (120) and analyzed in the spectrograph (104). However, Golden et al. does not disclose, or even suggest, that a method for controlling at least one operating variable of an electrolytic bath includes ascertaining a concentration of at least one **ionic** bath component, including at least one of (a) coating metal ions in a process bath and (b) foreign ions in a rinse bath. **As is apparent from paragraph [0009], lines 16 to 20 and paragraph [0007], lines 1 to 8, the methods and systems of Golden et al. are directed to determining the presence and concentration of plating bath additives, which typically include accelerators, brighteners, suppressors and levelers that are generally organic-based molecules or macromolecules, not ionic compounds. In addition, although Golden et al. states, in paragraph [0017], that many compounds fluoresce or emit light when exposed to laser light in the visible region, Golden et al. also states, in the same paragraph, that fluorescence bands are generally broad and featureless and nowhere mentions utilizing fluorescence for determining the concentration of ionic bath components.** Accordingly, it is respectfully submitted that Golden et al. does not render claim 11 unpatentable for at least these reasons.

Claims 17 and 21 include features analogous to claim 11 and have been amended in a manner analogous to claim 11. Accordingly, it is respectfully submitted that Golden et al. does not render claims 17 and 21 unpatentable for at least the reasons set forth above.

As for dependent claims 12, 15, 16, 18, it is respectfully submitted that Golden et al. does not render these dependent claims unpatentable for at least the reasons set forth above.

In view of all of the foregoing, withdrawal of this rejection is respectfully requested.

### **III. Rejection of Claims 13, 14, 19 and 20 Under 35 U.S.C. § 103(a)**

Claims 13, 14, 19 and 20 were rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Golden et al. and U.S. Patent No. 4,778,763

("Makiguchi et al."). It is respectfully submitted that the combination of Golden et al. and Makiguchi et al. does not render these claims unpatentable for at least the following reasons.

Claims 13 and 14 depend from claim 11 and therefore include all of the features included in claim 11, and claims 19 and 20 depend from claim 17 and therefore include all of the features included in claim 17. As set forth above, Golden et al. does not disclose, or even suggest, all of the features included in claims 11 and 17. Makiguchi et al. does not cure the deficiencies of Golden et al. noted above. Accordingly, it is respectfully submitted that the combination of Golden et al. and Makiguchi et al. does not render unpatentable claims 13 and 14, which depend from claim 11, or claims 19 and 20, which depend from claim 17.

In view of all of the foregoing, withdrawal of this rejection is respectfully requested

#### **IV. Conclusion**

In light of the foregoing, Applicants respectfully submit that all pending claims are in condition for allowance. Prompt reconsideration and allowance of the present application are therefore earnestly solicited.

Respectfully submitted,

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